

1. A method (400) of compressing a digital image including a matrix of elements each one consisting of a plurality of digital components of different type representing a pixel, the method comprising the steps of:

10 quantizing (460-465) the DCT coefficients of
each block using a corresponding quantization table
scaled by a gain factor for achieving a target
compression factor,

estimating (441-450) the gain factor as a
function of the at least one energy measure, the
function being determined experimentally according to
20 the target compression factor.

2. The method (400) according to claim 1,
wherein each group of DCT coefficients consists of a DC
coefficient and a plurality of AC coefficients, the
step (441-450) of estimating the gain factor including
the steps of:

estimating (441) a first number of bits required to encode the AC coefficients of all the blocks using the quantization tables scaled by a pre-set factor as a first function of the at least one energy measure, the first function being determined

experimentally according to the target compression factor,

calculating (442) a second number of bits required to encode the DC coefficients of all the
15 blocks using the quantization tables scaled by the pre-set factor,

estimating (443-445) a basic compression factor provided by the quantization tables scaled by the pre-set factor according to the first number of
20 bits and the second number of bits, and

estimating (450) the gain factor as a second function of the basic compression factor, the second function being determined experimentally according to the target compression factor.

3. The method (400) according to claim 2, wherein the first function is a linear function and the second function is a quadratic function.

4. The method (400) according to claim 2 or 3, wherein the step of estimating (443-445) the basic compression factor includes the steps of:

estimating (443) a third number of bits,
5 required to encode control values, according to the number of elements of the digital image,

calculating (445) the basic compression factor dividing the sum of the first, second and third number of bits by the number of elements of the digital
10 image.

5. The method (400) according to any claim from 2 to 4, further comprising the steps of:

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selecting (410) an image quality and
determining a current value of the target compression
factor as a function of the selected image quality,

6. The method (400) according to any claim from 2 to 5, wherein the pre-set factor is determined experimentally according to the target compression factor.

7. The method (400) according to any claim from 1 to 6, wherein each element of the digital image consists of a luminance component, a first chrominance component, and a second chrominance component.

8. The method (400) according to claim 7,
wherein the at least one energy measure consists of a
total energy measure equal to the sum of an energy
measure of the luminance components, an energy measure
of the first chrominance components and an energy
measure of the second chrominance components.

9. The method (400) according to claim 7 or 8, wherein the step (440) of determining the at least one energy measure comprises, for each type of component, the steps of:

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10      calculating a total Sobel image by summing
      the horizontal Sobel image and the vertical Sobel
      image, and

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10. The method (400) according to claim 9, wherein at least one quantization table is asymmetric along a horizontal direction and a vertical direction, the method further comprising the steps of:

11. The method (400) according to any claim from 1 to 10, further comprising the steps of:

obtaining (435) the digital image from the incomplete digital image,

reading (455-465) the digital image from the
working memory for performing the steps of splitting

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from 1 to 10, further comprising the steps of:

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estimating (441-450) the gain factor,

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different type representing a pixel, the device (115)

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characterized in that

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on being determined expected target compression factor.

device (115) according to a compression unit (135) splitting the digital image into coefficients and the mean DCT coefficients, a memory for the quantization tables, and the means for determining the measure, a processor unit (115), a communication unit, the memory, the processor unit there (170) estimating the gain of a program stored onto the digital still camera (100) and providing the digital image in 13 or 14.

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